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EXAMINER

WATKINS III, WILLIAM P

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/518,241
Filing Date: December 16, 2004
Appellant(s): DUFFY, ROGER PHILIP

James F. McKeown
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 17 August 2009 appealing from the Office action mailed 19 March 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

U.S. 2002/0124945 A1	Muir et al.	9-2002
U.S. 4,983,341	Kromrey	1-1991
U.S. 4,325,899	Cole et al.	4-1982
U.S. 6,521,296 B1	Seal et al.	2-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 4-9, 11-14 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kromrey (U.S. 4,983,341) in view of Cole et al. (U.S. 4,325,899) further in view of Muir et al. (U.S. 2002/0124945 A1).

Kromrey teaches a breather sheet that has a central glass bead layer (elements 110 and 113) that has a porous glass fiber layer on top of the bead layer (element 119) to protect the bag, and a porous fiber release layer (element 107) under the bead layer in contact with the laminate to be consolidated. The reference teaches venting through the bead layer parallel to the plane of the bead layer, and more restricted venting normal to the plane of the bead layer because of the more limited permeability of the fabric layers (col. 3, line 65 through col. 4, line 30). Kromrey fails to teach a mesh layer between two outer layers in a breather sheet. Cole et al. teaches the use of a metal

mesh layer to allow venting in the plane of the metal mesh in a mold (abstract, col. 5, lines 40-60). Kromrey in view of Cole et al. fails to teach holes through the thickness of the outer layers to permit greater vertical venting. Muir et al. teaches the use of perforations in a mold layer to allow increased venting through a layer to reduce blisters in a molded laminate. Variation in size and distribution of the holes in the layer to increase ventilation is within the ordinary skill of the art depending on the amount of gas to be vented (abstract, sections 0042 and 0043).

The instant invention claims a breather sheet comprised of a mesh between two outer layers that are perforated. It would have been obvious to one of ordinary skill of the art to have substituted the metal mesh layer of Cole et al. for the glass bead layer of Kromrey as the metal mesh layer serves a similar function of allowing cross ventilation when the laminate is compressed in the mold. It further would have been obvious to one of ordinary skill in the art to have perforated the outer fiber layers of Kromrey in view of Cole et al. to increase the venting flow normal to the plane of the sheet because of the teachings of Muir et al. to increase vapor flow through a layer in a mold by perforation of the layer. Location of the holes so as not to be blocked by the mesh member would have been an obvious matter as well as location of any adhesive so as not to block the perforations in order to promote the desired venting function.

(10) Response to Argument

A. Response to Arguments Regarding the Rejection of Claim 1 by the Three Reference Combination

As a first matter, the examiner notes that the Seal et al. reference given above in the "Evidence Relied Upon" section above was not formally made part of the rejection of record, but was used in the argument section of the final rejection mailed 19 March 2009 to establish that the #1581 breather fabric layer of Kromrey (element 107, col. 3, lines 65-69) is made of glass fibers (see col. 11, lines 35-55 of Seal et al.). Appellant has not disputed that the element 107 layer of Kromrey is made of glass fibers, but does dispute that this implies that the layer is semi-rigid as asserted by the examiner and required by the instant claims on appeal. Kromrey explicitly teaches layer 119 as being made of a glass fabric (col. 4, lines 15-20). The instant specification discloses glass fiber as being a semi-rigid material (page 5, lines 5-10). Appellant argues that Kromrey teaches the fabric layers (elements 107 and 119) as being flexible and compliant fabrics that therefore they cannot be taken as being semi-rigid. As a matter of claim construction, the examiner takes a semi-rigid layer as having some degree of flexibility (or it would be considered as rigid), and enough rigidity that the molded article has an even surface (page 6, lines 9-1 of the instant specification). Fabric layer element 107 of Kromrey is taught as producing an even surface on the molded article (col. 4, lines 1-2), and fabric layer element 119 protects the bag from deformation in spots by protruding

bead surfaces (col. 4, lines 15-20). The examiner thus takes these layers as meeting the "semi-rigid" limitation of the instant claims.

Appellant also argues that there is no motivation to substitute the mesh of Cole et al. for the glass bead layers of Kromrey as there is no teaching in Kromrey of cross ventilation. Kromrey explicitly teaches that the large bead layer allows a lateral or cross pathway for gas escape that is parallel to the surface of the molded article (col. 4, lines 5-15). Appellant argues that the mesh of Cole et al. does not stay with the final product and that it causes surface deformation in the product of Cole et al. and thus would not be substituted for the bead layer of Kromrey. The examiner notes that the bead and cover layers of Kromrey also are not part of the final molded product and that the glass fiber layers of Kromrey are intended to prevent the beads of Kromrey from forming indentations in the surface of the molded article and the bag. Thus one of ordinary skill in the art would know the glass fiber layers of Kromrey would serve a similar function in preventing the mesh of Cole et al. from forming surface deformations in the molded article of Kromrey in view of Cole et al.

Appellant also argues that the Muir et al. reference has nothing what so ever to do with the breather sheet of the instant claims, as it is directed to a label on a molded container. The examiner disagrees. Kromrey explicitly states that a problem of the invention of Kromrey is some degree of limitation of the escape of gas during molding in a direction normal to the surface of the molded article (col. 4, lines 5-10). This is the same problem addressed by the instant specification (col. 2, lines 15-30). Muir et al. explicitly teaches a solution to this common problem of increasing the escape of gas

trapped between layers during molding in a direction normal to the surface of the layers by providing perforation of a layer. Thus Muir et al. would be considered as analogous art by one of ordinary skill in the art because of the common problem shared with the instant specification and Kromrey.

Appellant also argues that there is no factual basis for the assertion of the examiner, that one of ordinary skill in the art would adhere and arrange the mesh and outer perforated layers of the combination of the reference, so as to not block venting through the perforations in the outer layers. The examiner maintains his position that as a matter of logical reasoning, one seeking to perforate the outer layers of Kromrey in view of Cole et al. further in view of Muir et al. in order to vent gas, would not seek to place and arrange the perforations in such a way that they were substantially blocked by the adhesive used to join the layers or portions of the intermediate mesh.

**B. Response to Arguments Regarding the Rejection of Method Claim 7
Based on the Three Reference Combination**

The appellant incorporates by reference the arguments advanced and answered in the above section, and alleges that the rejection fails to address the method of making the breather sheet in claim 7 at all. While the rejection does not formally refer to method claim 7, it does refer to all of the steps in method claim 7, as the claim merely recites the assembly of all of the layers of the breather sheet claimed in claim 1. The examiner notes that the label layer of Muir et al. is perforated before assembly with the molded article as required by instant claim 7.

C. Response to Arguments Regarding the Rejection of Method of Use

Claim 14 Based on the Three Reference Combination

The appellant incorporates by reference the arguments advanced and answered in the above section regarding article claim 1, and alleges that the rejection fails to address the method of using the breather sheet in claim 14. While the rejection does not formally refer to method claim 14, it does address the steps of using a breather sheet with the limitations of article claim 1 to cure and mold prepregs, as the combination of the references teaches the limitations of the breather sheet of article claim 1, and the claimed method steps of using a breather sheet, once it is formed, are taught by Kromrey.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/William P. Watkins III/

Primary Examiner, Art Unit 1794

Conferees:

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

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